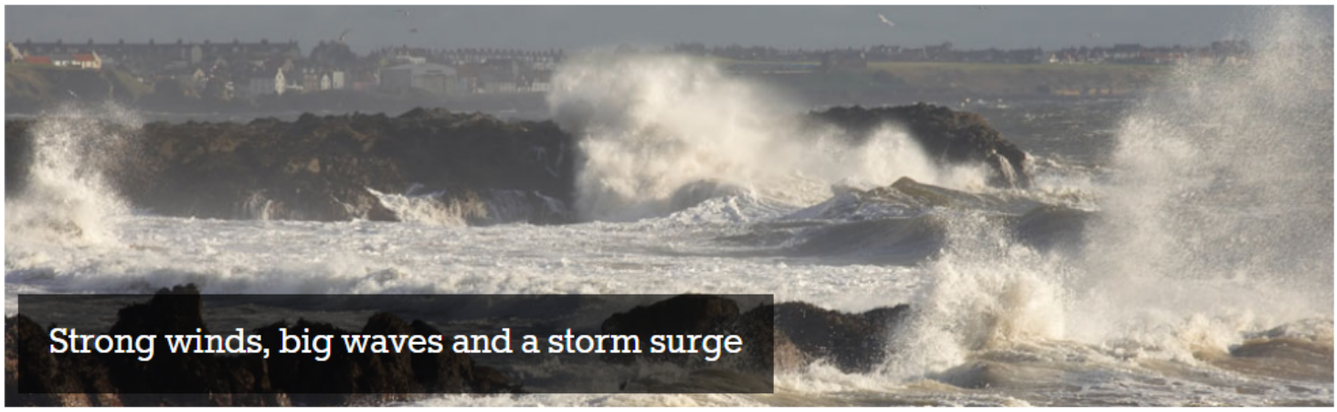

5 December 2013 - An Atlantic storm has tracked east to the north of Scotland overnight, bringing very strong winds across northern parts of the UK.

An Atlantic storm has tracked east to the north of Scotland overnight, bringing very strong winds across northern parts of the UK. There have been widespread gusts of 60-80mph and some exposed mountain sites have registered gusts of well over 100mph.

Met Office National Severe Weather Warnings are in force for strong winds. There has been significant disruption to travel across Scotland and public should be prepared for significant disruption across Northern England during the rest of the day on Thursday.

The strongest winds are expected to decrease in strength later today, but while the most severe weather subsides the risk of coastal flooding is set to increase.

This is because of high tides combining with strong winds, big waves and a storm surge. The coastal surge along the East Coast of England is expected to be the worst for more than 60 years

The Environment Agency , SEPA (Scottish Environmental Protection Agency) and Natural Resources Wales have all issued numerous warnings for flooding around coastal areas. People are urged to check the flood warnings for their region and take appropriate action.

The Environment Agency updates its flood guidance every 15 minutes on its website , and you can follow the Environment Agency on Twitter at @EnvAgency and on Facebook

SEPA are continuing to monitor the situation and encourage the public to check the SEPA website for active flood alerts and warnings or call SEPA's Floodline on 0845 988 1188, for the most up to date information on their area.

But what is a storm surge?

This is a very localised rising of sea level - independent of tides - related to the track of a storm and its accompanying winds.

The storm causes this surge of water in two ways. Firstly strong winds, often blowing parallel to the coast or onshore, push water roughly in their direction which causes water to 'pile up' on nearby coasts.

The second element, which is less important for the UK, relates to differences in air pressure. Low pressure, associated with storms, exerts less of a force on the sea surface - allowing the sea surface to temporarily rise in the vicinity of low pressure.

Local geography also plays a role. North Sea areas are particularly prone to storm surges because water flowing into the shallower southern end cannot escape quickly through the narrow Dover Strait and the English Channel. The shallow depths in the southern North Sea also aid the development of a large surge.

When storm surges combine with high tides, especially spring tides, and large waves they can cause flooding issues along coasts.

The Met Office is working with partners in Scottish Government, Transport Scotland , SEPA , the Environment Agency , Highways Agency , local councils and others in the resilience and transport community to ensure that they have the most up to date weather information to inform their planning decisions.

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